REMARKS

In the final rejection dated July 19, 2005, claims 1-4 were rejected under 35 U.S.C. 102(b) on the basis of the Japanese '316 reference. The Office Action states that the term "scattered" in applicants' claims "is being read in its broadest sense and therefore, looking at figure 6 of Japanese 2000-214316, the light can be seen as scattered."

What figure 6 of the Japanese reference shows is **diffraction** of light impinging on a grating. Diffraction is wavelength dependent, whereas scattering is wavelength independent. Thus, the Japanese reference cannot anticipate claims 1-4, because the term "scattering" in the independent claim 1 cannot be properly construed to read on the diffracting grating disclosed in the Japanese reference. Attached as Exhibits A and B are copies of standard industry definitions of the words "scattering" and "diffraction" from *The Photonics* dictionary. These definitions make it clear that scattering does not change the wavelength, but diffraction does. In fact, the definition of "scattering" in Exhibit A specifically states that "there is no change of wavelength of the radiation." The definition of "diffraction in Exhibit B also makes it clear that diffraction is a structured effect that produces patterns. This is in contrast to scattering, which is a random or haphazard effect that does not produce a pattern.

The term "scattering" is used in each of the rejected claims., and thus the claims distinguish over the Japanese reference. Claim 1, which is the only independent claim in this group of rejected claims, requires "a scattering core that receives the high power optical energy and radiates the scattered optical energy." There is no such core disclosed in the Japanese reference.

Claims 1-3 and 31 stand rejected under 35. U.S.C. 102(e) on the basis of the '884 published application. The Office Action states that the term "scattered" in applicants' claims "is read in its broadest sense in claim 1 and therefore, in the broadest sense the conduction of heat can also be read as scattered, because the heat is dissipated in all direction [sic]." However, applicants' claim 1 specifically require the scattering of "optical energy," not heat. Similarly, claim 31 requires a "scattering core" in a fiber that has a "transparent cladding," and thus also clearly deals with optical energy, not heat. The '884 reference teaches the use of a core that converts optical energy to heat, and then conducting the heat to a heat sink. There is no mention of the use of a scattering core in the '884 application.

Reconsideration of this application in light of the above remarks is respectfully requested.

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Application No.: 10/686126 Docket No.: 55219-00010USPT

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Respectfully submitted,

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scattering

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Definition:

Change of the spatial distribution of a beam of radiation when it interacts with a surface or a heterogeneous medium, in which process there is no change of wavelength of the radiation.

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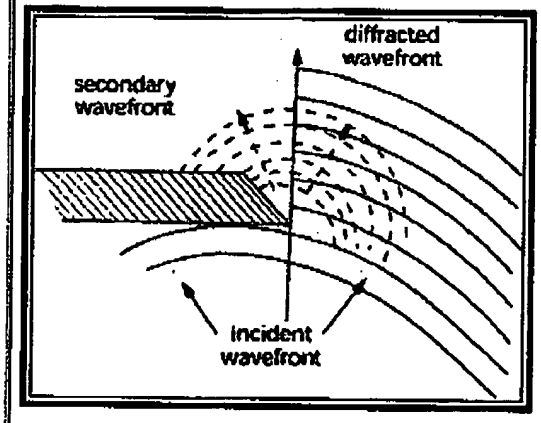
diffraction

See PREVIOUS | NEXT term in listing

Definition:

As a wavefront of light passes by an opaque edge or through an opening, secondary weaker wavefronts are generated, apparently originating at that edge. These secondary wavefronts will interfere with the primary wavefront as well as with each other to form various diffraction patterns.



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